

Appl No. 10/662,494
Amdt. dated July 10, 2006
Reply to Final Office Action of January 11, 2006

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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) A door opening and closing apparatus for a vehicle that includes an electric actuator for electrically operating a door latch, wherein the electric actuator is driven by power of a battery, the apparatus comprising:

a portable device held by a user, wherein the portable device wirelessly transmits an ID signal, which includes an ID code;

a power generation mechanism, and

a communication control unit, which is driven by power of the battery, wherein the communication control unit compares the ID code transmitted from the portable device with an ID code stored in the communication control unit in advance, wherein the communication control unit permits the electric actuator to be driven only when the condition is met that the ID codes coincide with each other, and wherein, when the voltage of the battery is below a level needed to drive the electric actuator, the communication control unit permits the electric actuator to be driven based on the condition that the ID codes coincide with each other only when the condition is met that power required for driving the electric actuator is obtained by the power generation mechanism,

wherein the communication control unit is capable of wirelessly transmitting a request signal when the battery has enough power to drive the electric actuator, wherein the portable device wirelessly transmits the ID signal upon receipt of the request signal, and wherein, when the voltage of the battery is below the level needed to drive the electric actuator, the communication control unit does not transmit the request signal until power required for driving the electric actuator is obtained by the power generation mechanism regardless of whether the communication control unit is supplied with power required for transmitting the request signal.

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2. (original) The door opening and closing apparatus according to claim 1, further comprising a manipulation member, which is manipulated to selectively open and close a door, wherein the power generation mechanism generates power in accordance with manipulation of the manipulation member.

3. (original) The door opening and closing apparatus according to claim 2, wherein, when the manipulation member is repeatedly manipulated, the power needed to drive the electric actuator is obtained.

4. (original) The door opening and closing apparatus according to claim 1, wherein power generated by the power generation mechanism is stored in the battery.

5. (original) The door opening and closing apparatus according to claim 4, wherein the communication control unit drives the electric actuator using power stored in the battery by the power generation mechanism.

6. (original) The door opening and closing apparatus according to claim 1, further comprising a monitor for monitoring whether the battery has enough power for driving the electric actuator.

7. (original) The door opening and closing apparatus according to claim 6, wherein the communication control unit determines whether the battery has power needed to drive the electric actuator based on a signal from the monitor.

8. (currently amended) A door opening and closing apparatus for a vehicle that includes an electric actuator for electrically operating a door latch, wherein the electric actuator is driven by power of a battery, the apparatus comprising:

a portable device held by a user, wherein the portable device wirelessly transmits an ID signal, which includes an ID code;

a manipulation member, which is manipulated to selectively open and close a door;

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a power generation mechanism, which generates power in accordance with a manipulation of the manipulation member;

a detection device for detecting whether the manipulation member has been manipulated;
and

a communication control unit, which is driven by power of the battery, wherein the communication control unit compares the ID code transmitted from the portable device with an ID code stored in the communication control unit in advance, wherein the communication control unit permits the electric actuator to be driven only when the conditions are met that the ID codes coincide with each other and that the manipulation member has been manipulated based on a detection signal from the detection device, and wherein, when the voltage of the battery is below a level needed to drive the electric actuator, the communication control unit permits the electric actuator to be driven based on the conditions that the ID codes coincide with each other and that the manipulation member has been manipulated only when the condition is met that power required for driving the electric actuator is obtained by the power generation mechanism,

wherein the communication control unit is capable of wirelessly transmitting a request signal when the battery has enough power to drive the electric actuator, wherein the portable device wirelessly transmits the ID signal upon receipt of the request signal, and wherein, when the voltage of the battery is below the level needed to drive the electric actuator, the communication control unit does not transmit the request signal until power required for driving the electric actuator is obtained by the power generation mechanism regardless of whether the communication control unit is supplied with power required for transmitting the request signal.

9. (original) The door opening and closing apparatus according to claim 8, wherein, when the manipulation member is repeatedly manipulated, the power needed to drive the electric actuator is obtained.

10. (original) The door opening and closing apparatus according to claim 8, wherein power generated by the power generation mechanism is stored in the battery.

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11. (original) The door opening and closing apparatus according to claim 10, wherein the communication control unit drives the electric actuator using power stored in the battery by the power generation mechanism.

12. (original) The door opening and closing apparatus according to claim 8, further comprising a monitor for monitoring whether the battery has enough power for driving the electric actuator.

13. (original) The door opening and closing apparatus according to claim 12, wherein the communication control unit determines whether the battery has power needed to drive the electric actuator based on a signal from the monitor.

14. (currently amended) The door opening and closing apparatus according to claim 6, wherein the monitor sends a power supply signal to the communication control unit when the battery has enough power for driving the electric actuator, wherein the communication control unit is capable of wirelessly transmitting the request signal when receiving the power supply signal, and wherein, when not receiving the power supply signal, the communication control unit does not transmit the request signal until power required for driving the electric actuator is obtained by the power generation mechanism regardless of whether the communication control unit is supplied with power required for transmitting the request signal.

15. (currently amended) The door opening and closing apparatus according to claim 12, wherein the monitor sends a power supply signal to the communication control unit when the battery has enough power for driving the electric actuator, wherein the communication control unit is capable of wirelessly transmitting the request signal when receiving the power supply signal, and wherein, when not receiving the power supply signal, the communication control unit does not transmit the request signal until power required for driving the electric actuator is obtained by the power generation mechanism regardless of whether the communication control unit is supplied with power required for transmitting the request signal.